

# WORK SHEET FOR STEPWISE CALCULATION

~~XXXXXXXXXXXX~~ PRESSURE (P<sub>c</sub> & P<sub>w</sub>)  
 (SURFACE)

4th

Form C-122-E  
Adopted 9-1-65

COMPANY Aminole USA, Inc. LEASE Federal 19-1 WELL NO. 1 DATE 2-24-83

LOCATION: Unit                      Section 19 Township                      Range 33e

L 13089 H 13089 W-1 1.000 G .7319 % CO<sub>2</sub> 5.002 % N<sub>2</sub> .607 % H<sub>2</sub>S                     

d 2.441 F<sub>r</sub> .010763 0 M<sup>2</sup>cld (L/H) (F<sub>r</sub>Q<sub>m</sub>)<sup>2</sup> 0 P<sub>cr</sub> 689 T<sub>cr</sub> 392

TABLE 15 & 8

| LINE | ITEM                                             | SOURCE                          | 1       | 2       | 3       | 4       | 5       | 6       | 7 | 8         | 9 | 10 |
|------|--------------------------------------------------|---------------------------------|---------|---------|---------|---------|---------|---------|---|-----------|---|----|
| 1    | H                                                |                                 | 13089   | 6545    |         | 0       |         |         |   |           |   |    |
| 2    | GH                                               |                                 | 9580    | 4789.9  |         | 0       |         |         |   |           |   |    |
| 3    | 37.5GH                                           |                                 | 359244  | 179622  |         | 0       |         |         |   |           |   |    |
| 4    | P <sub>c</sub> or P <sub>n</sub>                 |                                 | 2748.2  | 2314.6  | 2307.0  | 1867.2  | 1858.9  | 1853.4  |   | Pw-1853.8 |   |    |
| 5    | P <sub>r</sub>                                   |                                 | 3.99    | 3.36    | 3.35    | 2.71    | 2.70    | 2.69    |   |           |   |    |
| 6    | T                                                |                                 | 665     | 599.5   | 599.5   | 534     | 534     | 534     |   |           |   |    |
| 7    | T <sub>r</sub>                                   |                                 | 1.70    | 1.53    | 1.53    | 1.36    | 1.36    | 1.36    |   |           |   |    |
| 8    | Z                                                |                                 | .856    | .772    | .772    | .698    | .678    | .678    |   |           |   |    |
| 9    | P/Z P/Z                                          | 4÷8                             | 3210.5  | 2998.2  | 2988.3  | 2675.0  | 2741.8  | 2733.6  |   |           |   |    |
| 10   | P/TZ                                             | 9÷6                             | 4.8278  | 5.0012  | 4.9846  | 5.0094  | 5.1344  | 5.1192  |   |           |   |    |
| 11   | (P/TZ) <sup>2</sup> /1000                        | (10 <sup>2</sup> /1000)         |         |         |         |         |         |         |   |           |   |    |
| 12   | L/H(F <sub>r</sub> Q <sub>m</sub> ) <sup>2</sup> |                                 |         |         |         |         |         |         |   |           |   |    |
| 13   | I <sub>1</sub> + I <sub>2</sub>                  |                                 |         |         |         |         |         |         |   |           |   |    |
| 14   | I <sub>n</sub>                                   | I <sub>0</sub> ÷I <sub>3</sub>  | 207.135 | 199.951 | 200.620 | 199.626 | 194.765 | 195.342 |   |           |   |    |
| 15   | M=P <sub>n</sub> -P <sub>n-1</sub>               |                                 |         | 434     | 441     | 440     | 448     | 454     |   |           |   |    |
| 16   | N=I <sub>n</sub> +I <sub>n-1</sub>               |                                 |         | 407.086 | 407.755 | 400.245 | 395.384 | 395.962 |   |           |   |    |
| 17   | M x N                                            | I <sub>5</sub> x I <sub>6</sub> |         |         | 179917  |         |         | 179589  |   |           |   |    |
| 18   | Σ (M x N)                                        | Σ I <sub>7</sub>                |         |         | 179327  |         |         |         |   |           |   |    |